REMARKS

Applicant wishes to thank Examiner Walford and Primary Examiner Roy for the courtesy of a telephone interview on March 31, 2008. An attached draft Rule 116 Response was discussed and is provided herein with modifications.

It was acknowledged that applicant's invention was directed to the final main tube part that was formed of polycrystalline alumina ceramic and had a specific average crystal grain diameter G(μm) of $0.5 \leq G \leq 1.5$ after sintering to maintain a long lasting arc tube of high light transmittance.

The Final Office Action of January 4, 2008 contended that Claims 1, 3, 5, 6, and 8 and 9 were rejected over the *Keijser et al.* (U.S. Patent No. 6,300,729) in view of *Oda et al.* (U.S. Patent No. 4,214,666).

The Final Office Action basically repeated the same rejection that had been set forth in the Office Action of July 26, 2007. This included acknowledging that the *Keijser et al.* reference did not disclose a ceramic with a polycrystalline alumina having magnesium oxide of 200 ppm or below nor that $0.5 \leq G \leq 1.5$ was satisfied with a crystal grain diameter of the polycrystalline alumina ceramic is G(μm).

The Office Action specifically relied upon the *Oda et al.* reference to teach a crystal grain diameter of the sintered polycrystalline ceramic tube to be within the claimed range of 0.5 to 1.5 μm for a crystal grain diameter.

In the response to Applicant's Remarks, the Office Action mistakenly contended that applicant had argued that MgO could not be made from a powder. Applicant respectfully traverses this contention. Our responding amendment of October 19, 2007 clearly set forth the following contentions on Pages 4 and 5:

> The above parameters of our invention are defined in relationship to an actual arc tube as set forth in each of the independent claims. That is, they are describing the actual main tube part after it has been appropriately mixed in a powder form, molded to a tubular shape, dried and sintered to the final product configuration. As a result of an elevated temperature in sintering, the polycrystalline alumina ceramic with the magnesium oxide supports a specific crystal grain diameter within the range mentioned above.
>
> Thus, the actual crystalline grains in the finished arc tube meet these requirements.
>
> As will be discussed with regards to the cited references, this is an important feature to understand in distinguishing our present invention over the prior art. (Underline added)

Applicant teaches that its polycrystalline alumina was formed into a ceramic having magnesium oxide of 200 ppm or below. Only the initial mix is in a powder form when it is molded to a tubular shape, dried and then specifically sintered to the final ceramic tubular product configuration. Thus, the final sintered crystalline grains in the finished arc tube have a crystal grain diameter between 0.5 μm and 1.5 μm as set forth in our equation in both claims 1 and 6.

When referring to the finished product, it is understood that it is a ceramic and a ceramic that has been created under elevated temperature by sintering. To prevent any confusion or misinterpretation, applicant is proposing the terminology "sintered" to remove any confusion with an initial powder configuration of the raw mix.

With this clarification, it is believed that the present application is allowable and that there has been a misinterpretation of the actual teachings in the Oda et al. reference. The Oda et al. reference clearly describes on Column 2, line 24 to line 32 that it is important for a person of skill in this field to have an average crystal grain size of a polycrystalline transparent alumina within a range of 20 to 60 μm. This is the same measurement of crystal grain size as set forth in

our claims of alumina ceramic crystalline diameters and it is clearly way beyond our desired level. As noted by Oda et al., if this teaching was violated and went below an average crystal grain size of 20 μm, it would increase the mechanical strength but "the light transmission properties are deteriorated". Thus, the Oda et al. reference directly teaches away from the improved light transmission features of our present invention and cannot be utilized by persons skilled in the art to modify *Keijser et al.*

> "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley,* 27 F.3d 551, 553 (Fed. Cir. 1994); *see KSR,* 127 S. Ct. at 1739-40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Additionally, a reference may teach away from a use when that use would render the result inoperable. *McGinley v. Franklin Sports, Inc.,* 262 F.3d 1339, 1354 (Fed. Cir. 2001).
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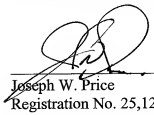
> *In re Icon Health and Fitness, Inc.* 2007 U.S. App. Lexis 18244, *10

The present claims add the term "sintered" to affirm the average crystal grain diameter is measured in the final ceramic form of the arc tube.

It is believed that the case is now in condition for allowance and early notification of the same is requested.

Very truly yours,

SNELL & WILMER L.L.P.



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